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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of

Rulemaking to Amend Part 1 and Part 21 of the Commission's Rules to Redesignate } CC Docket No. 92-297

SUMMARY

Motorola commends the Commission for its action, in the instant rulemaking, proposing to accommodate an innovative technology (a cellular-like millimeter wave system technology) while also encouraging broader categories of services, such as local wireless broadband services, multipoint video programming distribution, wideband video, data and other telecommunications services. Significantly, the proposal involves the 28 GHz band, which is already allocated to the Fixed-Satellite Service (FSS) operations on a primary basis. The Notice of Proposed Rulemaking (NPRM)[1] seeks comment on how best to protect and provide for the needs of satellite services which have already been allocated spectrum in portions of this band. Commenting parties have addressed both the existing satellite allocation, as well as terrestrial operations by the proposed LMDS.

The commenting parties have provided support for incorporating both flexibility and spectral efficiency considerations within whatever LMDS rules and policies are adopted. These policies will provide opportunity for a wide variety of technologies and bandwidth applications to be developed and brought to the user public. It would be counterproductive for the LMDS rules to select at this point one technology (or even a few) or one single bandwidth plan. The rules should provide maximum flexibility for future generations of LMDS technology. Narrowbanding and other techniques can be anticipated to offer increased achievements in spectrum efficiency. The LMDS rules should not be cast in such an inflexible manner as to preclude additional future entrants from making such spectral efficiencies available.

The comments filed have indicated that, if the existing FSS allocation operations are overlaid with the proposed LMDS operations, there are significant interference considerations which must be addressed. In particular, the 200 MHz band from 29.1 - 29.3 GHz is needed for

[1] See "Notice of Proposed Rulemaking, Order, Tentative Decision and Order on Reconsideration", CC Docket No. 92-297, FCC 92-538, released January 8, 1993. The document will be hereinafter referred to as "Notice" or "NPRM".

Iridium's low-earth-orbiting (LEO) gateway/control satellite uplinks. This portion of the 28 GHz band needs to be set aside from any allocation which is made for future operations by terrestrial LMDS. The technical aspects of these issues are discussed in greater detail in the comments and replies filed in this proceeding by Motorola SatCom, Inc.

DISCUSSION

Motorola supports the Commission's proposal to implement a Local Multipoint Distribution Services (LMDS) and commends the Commission for its visionary approach: accommodating a particular innovative technology while remaining broadly flexible so as to encourage other categories of service such as local wireless broadband services, multipoint video programming distribution, wideband video, data and other telecommunications services.

I. LMDS policies should incorporate flexibility and spectrum efficiency considerations.

A flexible approach will be needed in order to permit LMDS to develop fully. The comments include discussions of a number of services which may not include video, local wireless broadband services and other data offerings. The full and successful implementation of LMDS will require policies which do not settle on one particular application, whether video or otherwise. LMDS rules should reflect this flexibility both in terms of service offerings, the number of permissible service providers and the amount of spectrum made available to such providers.

in the 250 to 500 MHz range. This particularly appears to be the case for LMDS applications which are non-video, data oriented. The Commission's allocations and licensing policies should provide sufficient flexibility so as to permit any such greater spectrum efficiencies.

The advent of digital technology is also predicted by the commenting parties to bring greater capacity on less bandwidth. Wireless Cable, Ltd., suggests that, with the use of digital technology, it will be possible for broadcast channels to accommodate more closely spaced channels, each occupying much less than 20 MHz channels. This would provide greater spectral efficiency than the concept underlying the Commission's proposal: an analog-based technology requiring 20 MHz per channel and a total of 1 GHz of spectrum to be feasible. Future digital applications could improve the spectrum efficiency of LMDS and should not be precluded by overly restrictive licensing and allocation policies.

II. The primary allocation to fixed-satellite service should be protected. 200 MHz (29.1 - 29.3 GHz) should remain separate from the proposed allocation to LMDS.

The proposed new co-primary allocation in the 28 GHz band cannot co-exist with the feeder links of Motorola SatCom's IRIDIUM™ system, which will use the 29.1 - 29.3 GHz segment of that band, pursuant to the band's current co-primary allocation to the Fixed-Satellite Service (FSS). The operational and coordination problems associated with overlaying the proposed terrestrial operation in this 200 MHz portion of the band are discussed in greater detail in the comments and replies submitted by Motorola SatCom in this proceeding. Other commenting parties also described the sharing problems. See comments, EMI Communications.

The recommendation to set aside the 200 MHz from 29.1 - 29.3 GHz has been endorsed and recommended to the Commission in the Report of the MSS Above 1 GHz Negotiated Rulemaking Committee. The Committee's report was submitted to the Commission on April 6, 1993, and has been made part of the record in the instant proceeding. The report endorsed

the conclusion that LMDS would be incompatible with the IRIDIUM™ feeder uplinks and proposed that LMDS should be excluded from the 200 MHz proposed to be used by IRIDIUM™.

allocation until it can be determined that MSS feeder links can be satisfied at 28 GHz. See comments of Norris Satellite Communications, Inc., Calling Communications, Inc. and Loral Qualcomm Satellite Services, Inc.

The 200 MHz recommended by the Negotiated Rulemaking Committee and requested by Motorola SatCom would be adequate for IRIDIUM™ feeder link operation but would not accommodate the needs of other FSS systems, including the feeder link requirements of other proposed LEO systems. Motorola SatCom, however, is the only LEO MSS applicant which has communicated to the FCC its intention to use spectrum in the 27.5 - 29.5 GHz band for its feeder

services with the appropriate amount of bandwidth and other technical parameters.

On the other hand, this commendable flexibility makes a set-aside for FSS uplinks even more imperative: with such flexibility in place, there is no mechanism for a satellite operator (such as, in the case of the application submitted by Motorola SatCom) to design a system in contemplation of additional interference problems which may be created by novel, yet-to-be developed LMDS technologies. In the instant case, Motorola SatCom's analysis of interference problems (necessitating the 200 MHz set-aside) was premised solely on the one known quantity, namely the Suite 12 proposal on file at the Commission. Co-existence is demonstrably impracticable with this one system.

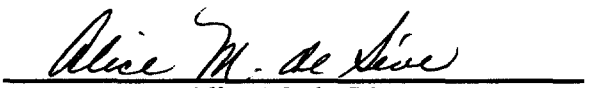
The proposed flexibility, while appropriate, is very narrow in scope: it provides flexibility only for LMDS systems. The interference protections are not extended to other (FSS) systems operating within the same band with completely different parameters. The more extensive reply comments filed by Motorola SatCom detail the interference problems which can be predicted to occur both from and to fixed earth stations by LMDS systems. The Commission's coordination rules do not prevent this problem from occurring. Rule 821.1002(b) is limited in scope, covering

CONCLUSION

Motorola supports the Commission's proposal to allocate 28 GHz band and spectrum for LMDS. The proposal is appropriately cast in terms of accommodating innovative video technology

CERTIFICATE OF SERVICE

I, Alice M. de Séve, of Motorola Inc., do hereby certify that on this 15th day of April, 1993 a copy of the foregoing "Reply Comments" was sent to each of the following by first-class mail, postage-prepaid except where service by hand is indicated(*):



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